Amendments to the Claims

Please amend claims 1, 7, 12, 18 and 24. Please add new claim 30. The currently pending claims after amendment are listed below.

1   1.   (Currently Amended)   An apparatus, said apparatus comprising:

2   a controller, and

3   a curve matching mechanism that executes under the direction of said controller, said curve
4   matching mechanism receiving curve data as an input, <u>said curve data comprising a plurality of</u>
5   <u>data points representing a curve,</u> said curve matching mechanism using Fuzzy Logic to describe
6   said <u>curve represented by said</u> curve data and to thereby create curve data description information,
7   said curve data description information then being available to said controller.

1   2.   (Original)   The apparatus of claim 1 wherein said controller is a Fuzzy Logic controller
2   that executes on a processor.

1   3.   (Original)   The apparatus of claim 1 wherein said curve data is time series data.

1   4.   (Original)   The apparatus of claim 1 wherein said curve data is described by comparing
2   said curve data to at least one standard curve, said at least one standard curve being a Fuzzy Set.

1   5.   (Original)   The apparatus of claim 1 wherein said curve data description information is an
2   output curve.

1 6. (Original) The apparatus of claim 5 wherein said at least one output curve shows a degree
2 of similarity between said curve data and said at least one standard curve.

1 7. (Currently Amended) An apparatus, said apparatus comprising:

2 a Fuzzy Controller that executes on a processor, and

3 a curve matching mechanism that executes under the direction of said Fuzzy Controller,
4 said curve matching mechanism receiving curve data as an input, <u>said curve data comprising a</u>
5 <u>plurality of data points representing a curve,</u> said curve matching mechanism using Fuzzy Logic
6 to describe said <u>curve represented by said</u> curve data and to thereby create curve data description
7 information, said curve data description information then being available to said Fuzzy
8 Controller, said Fuzzy Controller then using said curve description information to at least partially
9 control said apparatus.

1 8. (Original) The apparatus of claim 7 wherein said curve data is time series data.

1 9. (Original) The apparatus of claim 7 wherein said curve data is described by comparing
2 said curve data to at least one standard curve, said at least one standard curve being a Fuzzy Set.

1 10. (Original) The apparatus of claim 7 wherein said curve data description information is an
2 output curve.

1 11. (Original) The apparatus of claim 10 wherein said at least one output curve shows a
2 degree of similarity between said curve data and said at least one standard curve.

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1   12.   (Currently Amended)   An apparatus, said apparatus comprising:

2   an engine;

3   a Fuzzy Controller that executes on a processor, said processor being associated with said
4   engine; and

5   a curve matching mechanism that executes under the direction of said Fuzzy Controller,
6   said curve matching mechanism receiving curve data as an input, <u>said curve data comprising a</u>
7   <u>plurality of data points representing a curve,</u> said curve matching mechanism using Fuzzy Logic
8   to describe said <u>curve represented by said</u> curve data and to thereby create curve data description
9   information, said curve data description information then being available to said Fuzzy
10   Controller, said Fuzzy Controller then using said curve description information to at least partially
11   control said apparatus.

1   13.   (Original)   The apparatus of claim 12 wherein said curve data is time series data.

1   14.   (Original)   The apparatus of claim 12 wherein said curve data is described by comparing
2   said curve data to at least one standard curve, said at least one standard curve being a Fuzzy Set.

1   15.   (Original)   The apparatus of claim 12 wherein said curve data description information is
2   an output curve.

1   16.   (Original)   The apparatus of claim 15 wherein said at least one output curve shows a
2   degree of similarity between said curve data and said at least one standard curve.

1   17.   (Original)   The apparatus of claim 12 wherein said engine is contained within a vehicle.

1   18.   (Currently Amended)   A program product, said program product comprising:

2   a controller, and

3   a curve matching mechanism that executes under the direction of said controller, said curve
4   matching mechanism receiving curve data as an input, <u>said curve data comprising a plurality of</u>
5   <u>data points representing a curve,</u> said curve matching mechanism using Fuzzy Logic to describe
6   said <u>curve represented by said</u> curve data and to thereby create curve data description information,
7   said curve data description information then being available to said controller.

1   19.   (Original)   The program product of claim 18 wherein said controller is a Fuzzy Logic
2   controller that executes on a processor.

1   20.   (Original)   The program product of claim 18 wherein said curve data is time series data.

1   21.   (Original)   The program product of claim 18 wherein said curve data is described by
2   comparing said curve data to at least one standard curve, said at least one standard curve being a
3   Fuzzy Set.

1   22.   (Original)   The program product of claim 18 wherein said curve data description
2   information is an output curve.

1   23.   (Original)   The program product of claim 22 wherein said at least one output curve shows
2   a degree of similarity between said curve data and said at least one standard curve.

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1   24.   (Currently Amended)   A method, said method comprising the steps of:

2   receiving curve data as input<u>, said curve data comprising a plurality of data points</u>

3   <u>representing a curve</u>;

4   describing said <u>curve represented by said</u> curve data using Fuzzy Logic to create curve data

5   description information; and

6   using said curve data description information to at least partially control an apparatus.

1   25.   (Original)   The method of claim 24 wherein said step of at least partially controlling an

2   apparatus is performed by a Fuzzy Logic controller that executes on a processor.

1   26.   (Original)   The method of claim 24 wherein said curve data is time series data.

1   27.   (Original)   The method of claim 24 wherein said curve data is described by comparing said

2   curve data to at least one standard curve, said at least one standard curve being a Fuzzy Set.

1   28.   (Original)   The method of claim 27 wherein said curve data description information is an

2   output curve.

1   29.   (Original)   The method of claim 24 wherein said at least one output curve shows a degree

2   of similarity between said curve data and said at least one standard curve.

1   30.   (New)   A method, said method comprising the steps of:

2   receiving data representing an input curve as input;

3   determining membership of said input curve in at least one Fuzzy Set, each said Fuzzy Set
4   expressing a property of a respective at least one curve;

5   outputting at least one respective input curve membership value representing degree of
6   membership of said input curve in each said Fuzzy Set; and

7   using said at least one respective input curve membership value to at least partially control
8   an apparatus.